UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2004/00480

July 12, 2004

Mr. Fred Patron
U.S. Department of Transportation
Federal Highway Administration
The Equitable Center, Suite 100
530 Center Street NE
Salem, Oregon 97301

Re: Endangered Species Act Section 7 Formal Conference, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation on Walker Creek Fish Passage Project, Siuslaw River Basin, Lane County, Oregon (6th Field HUC No. 171002060302)

Dear Mr. Patron:

Enclosed is a conference opinion prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the Federal Highway Administration (FHWA) funding of the Walker Creek Fish Passage Project, Siuslaw River Basin, Lane County, Oregon. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*), which are proposed for listing as threatened under the ESA. As required by section 7 of the ESA, NOAA Fisheries included reasonable and prudent measures with non-discretionary terms and conditions that NOAA Fisheries believes are necessary to avoid or minimize the effects of incidental take associated with these actions. However, the incidental take statement does not become effective until NOAA Fisheries adopts this conference opinion as a biological opinion, after the listing is final. Until the time that the species is listed, the prohibitions of the ESA do not apply.

This document also serves as consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and implementing regulations (50 CFR Part 600). NOAA Fisheries concludes that the proposed action may adversely affect designated EFH for Pacific salmon and groundfish species. As required by section 305(b)(4)(A) of the MSA, included are conservation recommendations that NOAA Fisheries believes will avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from the proposed action. As described in the enclosed consultation, 305(b)(4)(B) of the MSA requires that a Federal action agency must provide a detailed response in writing within 30 days after receiving an EFH conservation recommendation.

Please direct any questions regarding this letter to Tom Loynes, fisheries biologist in the Oregon State Habitat Office at 503.231.6892.

Sincerely,

for Michael R Crouse

D. Robert Lohn
Regional Administrator

cc: Frannie Brindle, ODOT
Molly Cary, ODOT
Nick Testa, ODOT
Greg Apke, ODOT
Jeff Smith, ODOT
Randy Reeve, ODFW
Sam Dunnavant, ODOT
Elton Chang, FHWA

Endangered Species Act - Section 7 Consultation Conference Opinion

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Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Walker Creek Fish Passage Project
Siuslaw River Basin, Lane County, Oregon
(HUC No. 171002060302)

Agency:	Federal Highway Administration
Consultation Conducted By:	NOAA Fisheries Northwest Region
Date Issued:	July 12, 2004
Issued by:	F.r Michael R Crowe D. Robert Lohn Regional Administrator
Refer to:	**2004/00480**

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1. INTRODUCTION

1.1 Background

On April 23, 2004, NOAA's National Marine Fisheries Service (NOAA Fisheries) received a request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation on the proposed funding of the Walker Creek Fish Passage Project and EFH consultation pursuant to section 305(b)(2) of the MSA for a project to restore fish passage at a culvert on Walker Creek. NOAA Fisheries also received a complete biological assessment (BA) at that time. The proposed action is funding construction of a boulder placement project which will help provide passage below and through an existing culvert. The project applicant is the Oregon Department of Transportation (ODOT), and FHWA funds would partially finance this project and constitute the Federal nexus. ODOT is responsible for the project design and management.

The Endangered Species Act (ESA) of 1973 (16 USC 1531-1544), as amended, establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with U.S. Fish and Wildlife Service and NOAA Fisheries, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitats. This conference opinion (Opinion) is the product of an interagency conference pursuant to section 7(a)(2) of the ESA and implementing regulations found at 50 CFR 402.

The analysis also fulfills the essential fish habitat (EFH) requirements under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency that may adversely affect EFH (§305(b)(2)).

The proposed action is the Federal Highway Administration's (FHWA) funding of the Walker Creek Fish Passage Project. The project proposed by the FHWA will enable fish passage on Walker Creek, a tributary to the Siuslaw River. This Opinion addresses the effects of construction of the fish passage project at Walker Creek. The administrative record for this consultation is on file at the Oregon State Habitat Office of NOAA Fisheries.

1.2 Proposed Action

This project proposes to place an 46 to 61-centimeter (cm) layer of large and small rocks and large cobble inside the existing culvert. The larger rocks will be placed to hold the smaller material and to provide hydraulic roughness. Several large rocks or boulders will be placed downstream within 3 to 4.6 meters (m) of the outlet the help hold the material inside the culvert.

Rock size will likely be English Class 200 angular riprap (maximum diameter of 0.46 m), plus larger boulders to randomly place inside the culvert for hydraulic roughness. One machine will be lowered down into the culvert inlet to move material into the culvert. Another machine will be placed up on the highway to lower material down to the creek. No excavation of the streambed will be necessary for placement of material.

Placement of the material will require diversion of the stream, isolation of the work area, de-watering of the work area, and fish removal. Temporary water management will entail damming the stream, pumping during daylight project activities, and gravity flow off-hours and at night. Sandbags or other materials will be placed just upstream from the railroad trestle, or under the trestle, to form a dam across the creek channel. Placement of dam materials may require minor excavation of the streambed using a hand shovel to seat the sandbags or other materials. Construction will take place during the in-water work period of July 1 to September 15, 2004, and should be completed within a week, with work in the culvert and stream taking only 2 days.

Staging will not take place at the culvert site and will be beside the highway north of the culvert at a pullout. Access will be obtained by lowering equipment and material down to the creek channel on the inlet side of the highway.

The site restoration goal is renewal of habitat access, water quality, and streambed conditions that maintain productive habitats. Disturbed areas on the fill slope will be seeded and mulched with a permanent erosion control mix. No pesticide application will be allowed and no surface application fertilizer will be used within 15 m of Walker Creek.

1.3 Conservation Measures

Conservation measures in the following categories are proposed by the FHWA: (1) Timing of in-water work, (2) temporary water management, (3) adherence to NOAA Fisheries' fish passage and screening guidelines, and (4) pollution and erosion control. NOAA Fisheries regards the conservation measures included in the BA as intended to minimize adverse effects to anadromous salmon habitat, and considers them to be part of the proposed action.

In addition, the FHWA proposed measures that will prevent the death or injury of anadromous salmonids. These will limit the "take" of OC coho. These are also considered to be part of the proposed action.

1.4 Description of the Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area (project area) involved in the proposed action (50 CFR 402.02). For this consultation, NOAA Fisheries defines the action area as all riparian and riverine habitats accessible to OC coho salmon, and extends approximately 15 m upstream to the upper diversion and approximately 30.5 m downstream to the confluence of Walker Creek with

the Siuslaw River. The action area also extends 30.5 m to the north and 30.5 m to the south of the crossing along the Mapleton – Junction City Highway.

2. ENDANGERED SPECIES ACT

2.1 Conference Opinion

NOAA Fisheries listed OC coho salmon as threatened under the ESA on August 10, 1998 (63 FR 42587), and issued protective regulations under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). Critical habitat is not designated or proposed for this species.

In September 2001, in the case *Alsea Valley Alliance v. Evans*, U.S. District Court Judge Michael Hogan struck down the 1998 ESA listing of OC coho salmon and remanded the listing decision to NOAA Fisheries for further consideration. In November 2001, the Oregon Natural Resources Council appealed the District Court's ruling. Pending resolution of the appeal, in December 2001, the Ninth Circuit Court of Appeals stayed the District Court's order that voided the OC coho listing. While the stay was in place, the OC coho evolutionarily significant unit (ESU) was again afforded the protections of the ESA.

On February 24, 2004, the Ninth Circuit dismissed the appeal in *Alsea*. On June 15, 2004, the Ninth Circuit returned the case to Judge Hogan and ended its stay. Judge Hogan's order invalidating the OC coho listing is back in force. Accordingly, OC coho are now not listed, and ESA provisions for listed species, such as the consultation requirement and take prohibitions, do not apply to OC coho salmon.

In response to the *Alsea* ruling, NOAA Fisheries released its revised policy for considering hatchery stocks when making listing decisions on June 3, 2004 (69 FR 31354). NOAA Fisheries completed a new review of the biological status of OC coho salmon, and applying the new hatchery listing policy, proposed to list OC coho salmon as a threatened species on June 14, 2004 (69 FR 33102). NOAA Fisheries must make a final decision on the proposed OC coho salmon listing by June 14, 2005.

This Opinion considers the potential effects of the proposed action on OC coho salmon, which occur in the action area, and on essential fish habitat for Chinook salmon and coho salmon.

2.1.1 Biological Information

Life history of OC coho salmon are represented in Table 1. Spawning, incubation, rearing, and migration occur throughout accessible reaches of the watershed.

Table 1. OC Coho Salmon Life History Timing in the Siuslaw River Basin (Weitkamp 1995, ODFW 2003). Light Shading Represents Low-Level Abundance, Dark Shading Represents Peak Abundance.

	J	F	M	A	M	J	J	A	S	O	N	D
River Entry												
Spawning												
Incubation-Intragravel Development												
Juvenile Freshwater Rearing												
Juvenile Migration												
Juvenile Residence in Estuary												

Estimated escapement of coho salmon in coastal Oregon was about 1.4 million fish in the early 1900s, with harvest of nearly 400,000 fish (Weitkamp *et al.* 1995). Abundance of wild OC coho salmon declined from about 1965 to 1975 (Nickelson *et al.* 1992). Lichatowich (1989) concluded that production potential (based on stock recruit models) for OC coho salmon in coastal Oregon rivers was only about 800,000 fish, and associated this decline with a reduction in habitat capacity of nearly 50%. Recent estimates of wild spawner abundance in this ESU has ranged from 16,500 adults in 1990, to nearly 60,000 adults in 1996, and 238,700 adult coho in 2002 (ODFW 2003). Estimated spawning populations for naturally-produced coho salmon in the Siuslaw River basin averaged 9,989 adults from 1990 through 2003. These results are summarized in Table 2.

Table 2. Estimated Spawning Populations for Naturally-Produced Coho Salmon in the Siuslaw River Basin (Jacobs *et al.* 2001, ODFW 2003)

Year:	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Estimated Siuslaw River Basin Population:	2,685	3,740	3,440	4,428	3,205	6,089	7,625	668	1,089	2,724	6,767	11,024	56,971	29,397 (preli m- inary)

Estimated spawning population surveys for naturally-produced coho salmon in the Wildcat Creek and Walker Creek watersheds have been done in 1996 through 1999, and have not seen spawners in the survey segments.

2.1.2 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR 402.02 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps of the consultation regulations: (1) Consider the biological requirements of the listed species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species; and (4) determine whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the effects of the environmental baseline, and any cumulative effects, and considering measures for survival and recovery specific to other life stages. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with cumulative effects when added to the environmental baseline, is likely to jeopardize the ESA-listed species

The next step above requires a two-part analysis. The first part focuses on the action area and defines the proposed action's effects in terms of the species' biological requirements in that area (*i.e.*, effects on essential habitat features). The second part focuses on the species itself. It describes the action's effects on individual fish, or populations, or both, and places these effects in the context of the ESU as a whole. Ultimately, the analysis seeks to answer the question of whether the proposed action is likely to jeopardize a listed species' continued existence. If so, step 5 is the identification by NOAA Fisheries of possible reasonable and prudent alternatives for the action that avoid jeopardy.

2.1.3 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species, taking into account population size, trends, distribution, and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination.

The biological requirements are population characteristics necessary for OC coho salmon to survive and recover to naturally-reproducing population levels, at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance its capacity to adapt to various environmental conditions, and allow it to become self-sustaining in the natural environment.

Essential habitat features for juvenile rearing (growth and development) areas include adequate water quality, water quantity, water velocity, cover and shelter, dietary and spatial resources, riparian vegetation, and safe passage to upstream and downstream habitats. Essential habitat features for juvenile migration corridors include adequate water quality, water quantity, water

velocity, cover and shelter, dietary resources, riparian vegetation, and space. Essential habitat features for adult migration corridors include adequate water quality, water quantity, water velocity, cover and shelter, riparian vegetation, and space.

2.1.4 Environmental Baseline

In step two of NOAA Fisheries' analysis, the relevance of the environmental baseline in the action area is evaluated. Regulations implementing section 7 of the ESA (50 CFR 402.02) define the environmental baseline as the past and present effects of all Federal, state, or private actions and other human activities in the action area. The environmental baseline also includes the anticipated effects of all proposed Federal projects in the action area that have undergone section 7 consultation, and the effects of state and private actions that are contemporaneous with the consultation in progress.

Land use within the action area consists of the transportation corridor (highway and railroad), scattered residences along the Mapleton – Junction City Highway, Siuslaw National Forest land west of the railroad, and pastures between the highway and the Siuslaw River. The town of Mapleton is 3.9 kilometers (km) south of the project site.

Vegetation within the footprint is dominated by invasive weedy forbs, grasses, and blackberries growing on the road fill. Riparian shrubs line the creek downstream of the footprint. A few riparian shrubs are growing between the culvert inlet and the railroad trestle. A grazed pasture is beside the creek, downstream on both sides. Upstream from the railroad trestle, the uplands are vegetated by coniferous forest, and riparian trees line the creek. Habitat changes that have contributed to the decline of OC coho in the action area include: (1) Reduced biological, chemical, and physical connectivity between streams, riparian areas, floodplains, and uplands; (2) elevated fine sediment yields; (3) reduced instream large woody debris; (4) loss or degradation of riparian vegetation; (5) altered stream channel morphology; (6) altered base and peak stream flows; and (7) fish passage impediments.

NOAA Fisheries concludes that not all of the biological requirements of the listed species within the action area are being met under current conditions. Based on the best available information on the status of OC coho salmon, including population status, trends, and genetics, and the environmental baseline conditions within the action area, significant improvement in habitat conditions is needed to meet the biological requirements of OC coho salmon for survival and recovery.

2.1.5 Analysis of Effects

In the next step of NOAA Fisheries' jeopardy analysis, the effects of proposed actions on listed species are evaluated, and the biologist provides an opinion about whether project will appreciably reduce the likelihood of survival and recovery of those species.

2.1.5.1 Effects of the Proposed Action

Water Quality - Turbidity

In the short term, sediment from construction activities could cause turbidity in the stretch of Walker Creek in the project area. In the long term, restoration of fish passage at the culvert will allow for access to habitat upstream.

The quality of the water that fish encounter on their migration is extremely important, and can determine such things as feeding and breeding success rates, disease levels, growth rates, and predation rates. Major elements of water quality critical to salmon are turbidity, suspended sediment, chemical contamination, and temperature. Turbidity and fine sediments can reduce prey detection, alter trophic levels, reduce substrate oxygen, smother redds, and damage gills, as well as cause other deleterious effects.

The effects of suspended sediment and turbidity on fish, as reported in the literature, range from beneficial to detrimental. Elevated total suspended solids (TSS) conditions have been reported to enhance cover conditions, reduce piscivorus fish/bird predation rates, and improve survival. Elevated TSS conditions have also been reported to cause physiological stress, reduce growth, and adversely affect survival. Of key importance in considering the detrimental effects of TSS on fish are the frequency and the duration of the exposure, not just the TSS concentration.

During water compaction, there is potential for turbid waters to escape the work area, subjecting ESA-listed fish to downstream sediment and detrimental conditions. In addition, sediment-laden water created within isolated work areas could escape, resulting in effects to the aquatic environment downstream from the project site. This will be avoided by pumping the turbid waters up to a settling pond and allowing sediments to settle out before infiltration.

Behavioral avoidance of turbid waters may be one of the most important effects of suspended sediments (DeVore *et al*. 1980, Birtwell *et al*. 1984, Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbid plumes (Sigler *et al*. 1984, Lloyd 1987, Scannell 1988, Servizi and Martens 1991). Juvenile salmonids avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al*. 1987). Turbidity resulting from the proposed project will be confined to the construction within the isolated area and removal of the temporary structures. The turbidity resulting from this in-water work will be minor, short-term, and local.

Increases in suspended sediment and turbidity will be of short duration and limited to activities associated with construction within the culvert. An erosion and sediment control plan and pollution control plan specifying containment measures will be developed to minimize water quality effects. The work area will be isolated using sandbag diversions at the upper and lower sections of the work area, and sediment mats (Sedimats) will be deployed to minimize turbidity effects.

These temporary increases in turbidity are not likely to physiologically stress and displace adults, since the work will take place during periods when adults are not present (*i.e.*, during the in-water work window). Rearing juvenile salmon may be present, but construction is proposed to occur only during the summer in-water work window, when juvenile abundance is likely low. Due to the measures to isolate the work from the creek flow, NOAA Fisheries does not expect serious levels of mortality in the juvenile salmonid population.

Exposure duration is a critical determinant of the occurrence and magnitude of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonid fishes have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with floods, and are adapted to such exposures. Adult and larger juvenile salmonid fishes appear to be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, chronic exposure can cause physiological stress that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

The proposed construction could temporarily increase turbidity downstream from the work area during and after construction for a total of approximately 7 to 10 hours per in-water construction activity.

Water Quality - Chemical Contamination

Chemical contamination can reduce fecundity and fertility, increase disease, shift biotic communities, and reduce the overall health of migrating salmon. Temperature affects metabolic rates, resistance to disease, oxygen concentrations in the water, and other vital factors.

Since equipment will be operating in the channel (isolated area), there is a potential for chemical contamination due to leaks and spills. As with all construction activities, accidental release of fuel, oil, and other contaminants may occur. Operation of the back-hoes, excavators, and other equipment requires the use of fuel, lubricants, *etc.*, which, if spilled into the channel of a waterbody or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can also cause chronic lethal and acute and chronic sublethal effects to aquatic organisms (Neff 1985). To minimize the potential for chemical contamination and disturbance of fish, construction activities will use best management practices (BMPs) outlined in the BA (pages 12-23).

The proposed action includes a spill containment and control plan. Because the construction will take place over a period of no more than 1 week, and the project is expected to last at least decades, any pollution from the use of machinery is expected to be temporary and short-lived.

Water Quality - Temperature

A major portion of this project entails using rock and boulders to rebuild the stream substrate within the culvert. The proposed additional amount of rock in the culvert increases the possibility of elevated water temperatures due to solar radiation. This potential will be minimized by the fact that it will be in a shaded culvert during the summer months. The riparian zone, over time, will encroach on the stream providing shade and vegetation will grow beside the channel.

The water above the upper diversion could also experience elevated temperatures. Maintaining downstream flow and fish passage will allow fish to move without being trapped in this pool, and exposed to elevated stream temperatures and predation.

Water Quality - Dissolved Oxygen

Fine sediments produced by construction will likely create a sediment plume that may not disperse rapidly. Decreases in dissolved oxygen have been shown to adversely affect swimming performance in salmonid fishes (Bjornn and Reiser 1991). NOAA Fisheries expects only minor effects on dissolved oxygen concentrations due to the limited construction activity that is proposed, and because in-water work will be isolated from the stream flow.

Stream Channel Conditions

The in-water work proposed will also alter the substrate in the stream in the existing culvert. The substrate will be disturbed when the new channel is constructed. When water is put back into the channel after isolation and project completion later in the summer, there will be a short-term suspension of fine sediments within the work area. In the long term, the substrate will become more stable and even. The streambank and channel will be temporarily disturbed by placement of rocks, which will be completed in the dry. If remedial action is required due to rock movement or shifting, there may be a need to adjust boulders and disturb the substrate, potentially causing short-term suspension of fine sediments. This could cause hydraulic jumps, turbulence, or velocity barriers to fish passage if not corrected. All remedial actions will be completed during the Oregon Department of Fish and Wildlife (ODFW) in-water work period and from above the ordinary high water (OHW) mark.

Direct Harm

Individual fish may be injured or killed during fish removal and construction activities. The probability of injury or death will be reduced by completion of these activities during the preferred in-water work period, when fewer fish are likely to be present. Most work will occur during the preferred in-water work timing guideline of July 1 through September 15 (ODFW 2000). During this window, streamflow is typically low, fish presence is reduced, and rainfall is minimal. In-water work area isolation will allow the work to occur in the dry, thereby reducing the chemical contaminants entering the actively flowing water and direct impacts to fish. During channel modification activities, passage will be blocked by the diversion and fish will be removed from the work area and moved an area downstream with adequate cover and water quality. The area will need to be isolated and fish removed so that the equipment can be used in a dry channel, thereby eliminating turbidity and the potential to injure or kill coho salmon. The

resulting lack of upstream fish passage during construction would be the same condition that exists now during low-flow conditions.

Fish removal activities would be in accordance with NOAA Fisheries fish handling guidelines (NOAA Fisheries 2000). Work area isolation can result in a loss of aquatic invertebrates due to dewatering areas within the wetted channel. Individual fish may also be injured or killed as a result of fish removal from the work area. The probability of this is low because these activities would be conducted using containment measures isolating the work area with coffer dams. Any fish removed from the isolated work areas would experience high stress with the possibility of up to a 5% delayed mortality rate depending on rescue method. Fish salvage would occur within the isolated work area. Mortality and/or injury to fish species may occur during handling. Delayed mortality may occur due to stress from the handling.

Although fish passage may be temporarily impaired by isolating the channel in Walker Creek during construction within the culvert, the proposed action will potentially result in improved year-round fish passage conditions for both adult and juvenile salmonids, including OC coho salmon within Walker Creek. Long-term, beneficial effects to fish passage are expected in Walker Creek. If fish passage is not established as a result of this project, ODOT will pursue remedial action to repair and make adjustments. Placing large rock in a stream channel has the potential to create sub-surface flow due to porosity. This could create a passage barrier at moderate and lower flows. This project will utilize methods that will reduce the risk of sub-surface flow by mixing different sizes of material, including fines and water compaction. If porosity is not eliminated after completion of the project, remedial actions will include the remixing of fines with the substrate and water compaction. This could resuspend particles in the short term, exposing ESA-listed salmonids to gill abrasion and other effects listed above. ODOT will maintain a dry isolated work area, utilizing pumps if needed, to ensure that this does not occur.

The effects of these activities on OC coho salmon and aquatic habitat would be limited by construction methods and approaches that are included in the project design, and that are intended to avoid or minimize impacts. The BA lists conservation measures and BMPs on pages 12 to 23 that will enable minimization and avoidance of impacts to ESA-listed salmonids.

The proposed action would cause temporary impacts to OC coho salmon and their habitat, but would provide a long-term benefit by reducing local erosion, enhancing riparian vegetation, and re-establishing fish passage.

Because time is needed to construct the dams and install a diversion pipe, much of the preparation work will likely be done the day before dewatering and fish removal. As the diversions are removed, because of the damming effect on the water above the upper diversion, there is potential for fish stranding as that water level is dropped during demolition of the diversion. Fish could possibly utilize the newly-wetted areas artificially created by the diversion. The water level would need to be ramped down and the area above the diversion monitored for fish stranding. Because the completed culvert substrate will be dry, it will take

awhile for the channel to saturate. If the water is released into the culvert, the lower portion of Walker Creek could be de-watered for a period of time until the water level rises. To avoid this, the channel must be re-watered slowly maintaining flow in the portion of the stream below the lower diversion.

2.1.5.2 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."

NOAA Fisheries is not aware of any specific future non-federal activities within the action area that would cause greater effects to listed species than presently occurs.

Non-federal activities within the action area are likely to increase due to a projected 36% increase in human population between 2000 and 2025 in Oregon (EPA 2004). Thus, NOAA Fisheries assumes that future private and state actions will continue within the action area, increasing as population density rises. As the human population in the state continues to grow, demand for actions similar to the subject project likely will continue to increase as well. Each subsequent action may have only a small incremental effect, but taken together they may have a significant effect that would further degrade the watershed's environmental baseline and undermine the improvements in habitat conditions necessary for listed species to survive and recover.

2.1.6 Conclusion

After reviewing the best available scientific and commercial information available regarding the current status of the OC coho salmon ESU, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, NOAA Fisheries concludes that the action, as proposed, is not likely to jeopardize the continued existence of OC coho salmon.

Our conclusion is based on the following considerations: (1) All in-water work will occur at a time of year when abundance of adult and juvenile OC coho salmon is low and construction should be completed in a week; (2) the operation will be isolated from the wetted channel and fish salvage will occur; (3) potential increases in turbidity and reductions in dissolved oxygen will be short-lived; (4) all in-water work will be isolated from the creek flow and erosion control measures will be in place throughout the construction period; and (5) the effects of this action are not likely to impair currently properly functioning habitats, appreciably reduce the functioning of already impaired habitats, or retard the long-term progress of impaired habitats toward proper functioning condition essential to the long-term survival and recovery at the population or ESU scale.

2.1.7 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) The amount or extent of taking specified in the incidental take statement is exceeded, or is expected to be exceeded; (2) new information reveals effects of the action may affect listed species in a way not previously considered; (3) the action is modified in a way that causes an effect on listed species that was not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending conclusion of the reinitiated consultation.

2.2 Incidental Take Statement

The ESA at section 9 [16 USC 1538] prohibits take of endangered species. The prohibition of take is extended to threatened anadromous salmonids by section 4(d) rule [50 CFR 223.203]. Take is defined by the statute as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." [16 USC 1532(19)] Harm is defined by regulation as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering." [50 CFR 222.102] Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering." [50 CFR 17.3] Incidental take is defined as "takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant." [50 CFR 402.02] The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement [16 USC 1536].

However, the incidental take statement included in this conference opinion does not become effective until NOAA Fisheries adopts the conference opinion as a biological opinion, after the listing is final. Until the time that the species is listed, the prohibitions of the ESA do not apply.

2.2.1 Amount or Extent of Take

NOAA Fisheries anticipates that the action covered by this Opinion is reasonably certain to result in incidental take of OC coho salmon because of harm from project failure, the potential for injuring and/or killing individual fish during the work area isolation, and delayed mortality due to handling during the fish salvage process. Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term harm to habitat features or by long-term changes to OC coho salmon populations. Therefore, even though NOAA Fisheries expects some low-level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to

enable NOAA Fisheries to estimate a specific amount of incidental take to the species itself. In instances such as these, the NOAA Fisheries designates the expected level of take as "unquantifiable". Based on the information in the BA, NOAA Fisheries anticipates that an unquantifiable amount of incidental take is reasonably certain to occur as a result of the actions covered by this Opinion.

In addition, NOAA Fisheries expects that the possibility exists for handling OC coho salmon during the work isolation process, which will result in incidental take to individuals during the construction period. NOAA Fisheries anticipates that incidental take of up to eight juvenile OC coho salmon, including injury of 36 and death of 3 individuals, could occur as a result of the fish salvage process. This take estimate is based on approximately 170 m^2 of stream habitat that will be dewatered during work area isolation. The extent of the take is limited to OC coho salmon within the action area. The extent of the take includes the streambed and streambank of Walker Creek, extending upstream 15 m to the diversion, and downstream approximately 30 m to the confluence of Walker Creek with the Siuslaw River.

2.2.2 Reasonable and Prudent Measures

These reasonable and prudent measures are discretionary measures to minimize take, that may or may not already be part of the description of the proposed action. They must be implemented as binding conditions for the exemption in section 7(a)(2) to apply. The FHWA has the continuing duty to regulate the activities covered in this incidental take statement. If the FHWA fails to require the applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the contract, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of OC coho salmon resulting from the action covered by this Opinion. The FHWA shall require measures that will:

1. Avoid or minimize the amount of incidental take from rock placement activities in the channel of Walker Creek by requiring measures be taken to limit the duration and extent of rock placement in the action area, and to schedule such work when the fewest number of fish are expected to be present.

2. Avoid or minimize incidental take from general construction by excluding unauthorized actions and applying conditions that avoid or minimize adverse effects to riparian and aquatic systems.

3. Ensure effectiveness of implementation of the reasonable and prudent measures by requiring that all erosion control measures and plantings for site restoration, shall be monitored and evaluated both during and following construction.

2.2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (rock placement), the FHWA shall ensure that:

    a. Conservation goal. All actions intended for streambank protection will provide the greatest degree of natural stream function achievable through maintenance of existing natural features.
    b. Rock Placement.
        i. Rock may be used for the following purposes and structures.
            (1) Hydraulic shadow within the channel.
            (2) Rock must be evenly graded and mixed as it is put into place.
            (3) When the low-flow channel is designed, the outside curves should be constructed (soft spots) so that natural flow processes can create pool habitat.
    c. After completion of the project, the existing channel should be re-watered in a way that will not significantly impact water quality causing turbidity downstream or cause fish stranding.
        i. The diversion pipe shall be maintained in place while slowly dismantling the upper and lower dams. This will allow the new channel to slowly water-up, while still maintaining flow in the lower channel below the project. Because the area above the upper dam has temporarily expanded usable habitat for fish, slowly ramping the water will allow fish to enter the actual low-flow channel.
        ii. An ODOT or ODFW biologist shall be on site to monitor for fish stranding during this process.
        iii. The existing flow downstream of the project will be maintained throughout the construction.
    d. Any pump used for dewatering or diverting authorized under this Opinion must have a fish screen installed, operated and maintained in accordance to NOAA Fisheries' fish screen criteria.

2. To implement reasonable and prudent measure #2 (general conditions for construction, operation and maintenance), the FHWA shall ensure that:

    a. Timing of in-water work. In-water work will be completed between July 1 and September 15, a period of time when presence of OC coho salmon is expected to be low. Downstream fish passage will be maintained throughout the project, however, the stream will likely have little flow during construction. All work

must be completed within these dates unless otherwise approved in writing by NOAA Fisheries.

b. Cessation of work. Project operations will cease under high flow conditions that may result in inundation of the project area, except for efforts to avoid or minimize resource damage.

c. Fish screens. All water intakes used for a project, including pumps used to isolate an in-water work area, will have a fish screen installed, operated and maintained according to NOAA Fisheries' fish screen criteria.[1]

d. Fish passage. Passage will be provided for any adult or juvenile salmonid species present in the project area during construction, and after construction for the life of the project. Upstream passage is not required during construction if it did not previously exist.

e. Pollution and Erosion Control Plan. A Pollution and Erosion Control Plan will be prepared and carried out to prevent pollution related to construction operations. The plan must be available for inspection on request by FHWA or NOAA Fisheries.

   i. Plan Contents. The Pollution and Erosion Control Plan must contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.

      (1) Practices to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.

      (2) A description of any hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.

      (3) A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.

      (4) Practices to prevent construction debris from dropping into any stream or waterbody, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.

   ii. Inspection of erosion controls. During construction, all erosion controls must be inspected daily during the rainy season and weekly during the dry season to ensure they are working adequately.[2]

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[1] National Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996) (guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) (http://www.nwr.noaa.gov/1hydrop/hydroweb/ferc.htm).

[2] "Working adequately" means no turbidity plumes are evident during any part of the year.

(1) If inspection shows that the erosion controls are ineffective, work crews must be mobilized immediately to make repairs, install replacements, or install additional controls as necessary.

(2) Sediment must be removed from erosion controls once it has reached 1/3 of the exposed height of the control.

f. Construction discharge water. All discharge water created by construction (*e.g.*, concrete washout, pumping for work area isolation, vehicle wash water) will be treated as follows.

i. Water quality. Facilities must be designed, built and maintained to collect and treat all construction discharge water using the best available technology applicable to site conditions. The treatment must remove debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants likely to be present.

ii. Discharge velocity. If construction discharge water is released using an outfall or diffuser port, velocities must not exceed 4 feet per second.

iii. Spawning areas. No construction discharge water may be released within 300 feet upstream from active spawning areas.

g. Preconstruction activity. Before significant[3] alteration of the project area, the following actions must be completed.

i. Marking. Flag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

ii. Emergency erosion controls. Ensure that the following materials for emergency erosion control are onsite.

(1) A supply of sediment control materials (*e.g.*, silt fence, straw bales[4]).

(2) An oil-absorbing, floating boom whenever surface water is present.

iii. Temporary erosion controls. All temporary erosion controls must be in-place and appropriately installed downslope of project activity within the riparian area until site restoration is complete.

h. Heavy Equipment. Use of heavy equipment will be restricted as follows.

i. Choice of equipment. When heavy equipment must be used, the equipment selected must have the least adverse effects on the environment (*e.g.*, minimally-sized, rubber-tired).

ii. Vehicle staging. Vehicles must be fueled, operated, maintained, and stored as follows.

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[3] "Significant" means an effect can be meaningfully measured, detected or evaluated.

[4] When available, certified weed-free straw or hay bales must be used to prevent introduction of noxious weeds.

(1) Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area placed 150 feet or more from any stream, waterbody, or wetland.

(2) All vehicles operated within 150 feet of any stream, waterbody, or wetland must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected must be repaired in the vehicle staging area before the vehicle resumes operation. Inspections must be documented in a record that is available for review on request by FHWA or NOAA Fisheries.

(3) All equipment operated instream must be cleaned before beginning operations below the bankfull elevation to remove all external oil, grease, dirt, and mud.

iii. Stationary power equipment. Stationary power equipment (*e.g.*, generators, cranes) operated within 150 feet of any stream, waterbody or wetland must be diapered to prevent leaks, unless otherwise approved in writing by NOAA Fisheries.

i. Site preparation. Native materials will be conserved for site restoration.

i. If possible, native materials must be left where they are found.

ii. Materials that are moved, damaged, or destroyed must be replaced with a functional equivalent during site restoration.

iii. Any large wood,[5] native vegetation, weed-free topsoil, and native channel material displaced by construction must be stockpiled for use during site restoration.

j. Isolation of in-water work area. If adult or juvenile fish are reasonably certain to be present, the work area will be well isolated from the active flowing stream using inflatable bags, sandbags, sheet pilings, or similar materials. The work area will also be isolated if in-water work may occur within 300 feet upstream from spawning habitats. Water management plans must be approved in writing by NOAA Fisheries before the start of isolation.

k. Capture and release. Before and intermittently during pumping to isolate an in-water work area, an attempt must be made to capture and release fish from the isolated area using trapping, seining, electrofishing, or other methods as are prudent to minimize risk of injury.

i. A fishery biologist experienced with work area isolation and competent to ensure the safe handling of all ESA-listed fish must conduct or supervise the entire capture and release operation.

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[5] For purposes of this Opinion only, "large wood" means a tree, log, or rootwad big enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull width of the stream in which the wood occurs. See, Oregon Department of Forestry and Oregon Department of Fish and Wildlife, *A Guide to Placing Large Wood in Streams*, May 1995 (www.odf.state.or.us/FP/RefLibrary/LargeWoodPlacemntGuide5-95.doc).

ii. If electrofishing equipment is used to capture fish, the capture team must comply with NOAA Fisheries' electrofishing guidelines.[6]

iii. The capture team must handle ESA-listed fish with extreme care, keeping fish in water to the maximum extent possible during seining and transfer procedures to prevent the added stress of out-of-water handling.

iv. Captured fish must be released as near as possible to capture sites.

v. ESA-listed fish may not be transferred to anyone except NOAA Fisheries personnel, unless otherwise approved in writing by NOAA Fisheries.

vi. Other Federal, state, and local permits necessary to conduct the capture and release activity must be obtained.

vii. NOAA Fisheries or its designated representative must be allowed to accompany the capture team during the capture and release activity, and must be allowed to inspect the team's capture and release records and facilities.

l. Earthwork. Earthwork (including excavation, filling and compacting) will be completed as quickly as possible.

i. Site stabilization. All disturbed areas must be stabilized, including obliteration of temporary roads, within 12 hours of any break in work unless construction will resume work within 7 days between June 1 and September 30, or within 2 days between October 1 and May 31.

ii. Source of materials. Boulders, rock, woody materials and other natural construction materials used for the project must be obtained outside the riparian area.

m. Site restoration. All streambanks, soils and vegetation disturbed by the project are cleaned up and restored as follows.

i. Restoration goal. The goal of site restoration is renewal of habitat access, water quality, production of habitat elements, channel conditions, watershed conditions and other ecosystem processes that form and maintain productive fish habitats.

ii. Revegetation. Areas requiring revegetation must be replanted before the first April 15 following construction with a diverse assemblage of species that are native to the project area or region, including grasses, forbs, shrubs, and trees.

iii. Remediation work. All remediation work shall be completed during the in-water work period and equipment must be above OHW.

iv. Pesticides. No pesticide application is allowed, although mechanical or other methods may be used to control weeds and unwanted vegetation.

v. Fertilizer. No surface application of fertilizer may occur within 50 feet of any stream channel.

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[6] National Marine Fisheries Service, *Backpack Electrofishing Guidelines* (December 1998) (http://www.nwr.noaa.gov/1salmon/salmesa/pubs/electrog.pdf).

3. To implement reasonable and prudent measure #3 (monitoring and reporting), the FHWA shall ensure that:

   a. Within 120 days of completing the project, the FHWA shall ensure submital of a monitoring report to NOAA Fisheries describing the FHWA's success meeting their permit conditions. This report will consist of the following information.
      i. Project identification.
         (1) Project name.
         (2) Starting and ending dates of work completed for this project.
         (3) The FHWA contact person.
      ii. Isolation of in-water work area. All projects involving isolation of in-water work areas must include a report of any seine and release activity including:
         (1) The name and address of the supervisory fish biologist.
         (2) Methods used to isolate the work area and minimize disturbances to fish species.
         (3) Stream conditions before and following placement and removal of barriers.
         (4) The means of fish removal.
         (5) The number of fish removed by species.
         (6) The location and condition of all fish released.
         (7) Any incidence of observed injury or mortality.
      iii. Pollution and erosion control. A summary of all pollution and erosion control inspection reports, including descriptions of any failures with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.
      iv. Site restoration. Documentation of the following conditions:
         (1) Finished grade slopes and elevations.
         (2) Log and rock structure elevations, orientation, and anchoring, if any.
         (3) Any changes in planting composition and density.
         (4) A plan to inspect and, if necessary, replace failed plantings and structures, including the compensatory mitigation site.
      v. Photographic documentation of environmental conditions at the project site before, during and after project completion.
         (1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre- and post-construction.
         (2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
         (3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other

visually discernable environmental conditions at the project area, and upstream and downstream of the project.

vi. Monitoring. On an annual basis, for five years after completing the project, the FHWA shall ensure submital of a monitoring report to NOAA Fisheries describing the FHWA's success in meeting their habitat restoration goals of any riparian plantings. This report will consist of the following information.

(1) Project identification.
   (a) Project name.
   (b) Starting and ending dates of work completed for this project.
   (c) The FHWA contact person.

(2) Riparian restoration. Documentation of the following conditions.
   (a) Any changes in planting composition and density.
   (b) A plan to inspect and, if necessary, replace failed plantings and structures.

(3) Hydrology monitoring of the new channel. Documentation of the following elements.
   (a) Water velocity profiles throughout the channel during low, medium and migratory flows.
   (b) Observations of juvenile and adult fish usage and passage.
   (c) Survey of the channel to determine whether goals were met on design and if improvements can be made to enhance fish passage or what remediation needs exist.

vii. Monitoring reports will be submitted to:

NOAA Fisheries
Oregon State Habitat Office
Attn: 2004/00480
525 NE Oregon Street, Suite 500
Portland, OR 97232-2778

viii. Salvage notice. If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at 360.418.4246. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

3. MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

3.1 Background

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a Federal fisheries management plan. Pursuant to the MSA:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (§305(b)(2)).

- NOAA Fisheries must provide conservation recommendations for any Federal or state action that would adversely affect EFH (§305(b)(4)(A)).

- Federal agencies must provide a detailed response in writing to NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NOAA Fisheries' EFH conservation recommendations, the Federal agency must explain its reasons for not following the recommendations (§305(b)(4)(B)).

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting this definition of EFH: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.10). Adverse effect means any impact which reduces quality and/or quantity of EFH, and may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810).

EFH consultation with NOAA Fisheries is required regarding any Federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

The objectives of this EFH consultation are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH.

3.2 Identification of EFH

Pursuant to the MSA the Pacific Fisheries Management Council (PFMC) has designated EFH for three species of federally-managed Pacific salmon: Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other waterbodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream from certain impassable man-made barriers (as identified by the PFMC 1999), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based, in part, on this information.

3.3 Proposed Action

The proposed action is detailed above in section 1.2 of this document. For this consultation, the action area includes all riverine habitats accessible to anadromous salmon from 15 m upstream to the upper diversion and 30 m downstream to the confluence of Walker Creek and the Siuslaw River. This area has been designated as EFH for Chinook and coho salmon.

3.4 Effects of Proposed Action

The proposed action will temporarily adversely affect rearing and migration habitat for juvenile salmon, and water quality for Chinook and coho salmon.

3.5 Conclusion

The proposed action may adversely affect the EFH for Chinook and coho salmon in the action area.

3.6 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation measures proposed for the project by the FHWA and all of the terms and conditions contained in 2.2.3 are applicable to EFH, except those related to salvage of specimens or listed species. Therefore, NOAA Fisheries incorporates each of those measures here as EFH recommendations.

3.7 Statutory Response Requirement

Pursuant to the MSA (§305(b)(4)(B)) and 50 CFR 600.920(j), Federal agencies are required to provide a detailed written response to NOAA Fisheries' EFH conservation recommendations within 30 days of receipt of these recommendations. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. In the case of a response that is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

3.8 Supplemental Consultation

The FHWA must reinitiate EFH consultation with NOAA Fisheries if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920(k)).

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